

CLAIMS:

1. A refrigeration system having a main refrigeration circuit, wherein a first refrigerant goes through at least a compressing stage, wherein said first refrigerant is compressed to a high pressure gas state to then reach a condensing stage, wherein said high pressure gas refrigerant is condensed at least partially to a liquid state to then reach an expansion stage, wherein said high pressure liquid refrigerant is expanded to a low pressure liquid state to then reach an evaporator stage, wherein said low pressure liquid refrigerant is evaporated at least partially to a low pressure gas state by absorbing heat, to then return to said compressing stage, said condensing stage having at least a pair of stand-alone condensing stage closed loops in heat exchange relation with said main refrigeration circuit, said stand-alone condensing stage closed loops being parallel one to another and each comprising a second refrigerant circulating between at least a heat absorption stage, wherein said second refrigerant absorbs heat from said first refrigerant in said main refrigeration circuit so as to condense said first refrigerant to said liquid state, and a heat release stage, wherein said second refrigerant releases said absorbed heat, said condensing stage having modulating valve means for selectively and quantitatively modulating the temperature of said first refrigerant and compressor head pressure.

2. The refrigeration system according to claim 1, wherein said second refrigerant is one of ethylic acetate, acetic acid, sulfuric acid, ammoniac, calcium chloride, hydrogen chloride, methylene chloride, sodium chloride, vinyl chloride, carbon dioxide, ethanol, ethylene glycol, acetate formiate, potassium formiate, iso-butane, Pekasol 50, propane, propylene glycol, toluene, and trichloroethylene.

098811 11901
T06TTT T8860

3. The refrigeration system according to claim 1, wherein said heat exchange relation between said main refrigeration circuit and said condensing stage closed loop is achieved by a plate heat exchanger.

4. The refrigeration system according to claim 1, wherein said heat release stage of a first of said closed loops comprises at least one of a heat reclaim coil and a heating unit, and a second one of said closed loops comprises an evaporative condenser.

5. The refrigeration system according to claim 4, wherein said heat release stage of said first of said closed loops comprises valves to selectively chose flow of said second refrigerant through at least one of said heat reclaim coil and said heating unit.

6. The refrigeration system according to claim 1, wherein absorbed heat from said second refrigerant in said heat release stage is released by at least one of being evacuated outdoors, heating water and heating air.

7. The refrigeration system according to claim 6, further comprising valves for selecting the releasing of said absorbed heat from said second refrigerant in said heat release stage.

8. The refrigeration system according to claim 1, further comprising an absorbed heat reservoir downstream from said heat absorption stage in said first of said closed loops, wherein said second refrigerant is accumulated prior to being fed to said heat release stage.

9. The refrigeration system according to claim 1, wherein said modulating valve means comprises at least a valve for selectively and quantitatively directing flow of

0998844 11904

